

ABSTRAK

FATHUL JANNAH. Pengaruh Kemampuan Awal Matematika dan Model Pembelajaran Kooperatif Tipe *Numbered Head Together* Terhadap Kemampuan Komunikasi Matematis dan *Self Efficacy* Siswa. Tesis. Medan: Progam Studi Pascasarjana Universitas Negeri Medan, 2025

Penelitian ini dilatarbelakangi oleh rendahnya kemampuan komunikasi matematis dan *self-efficacy* siswa, serta proses pembelajaran yang masih bersifat monoton dan berpusat pada guru. Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran *Numbered Heads Together* (NHT) dibandingkan dengan pembelajaran langsung terhadap kemampuan komunikasi matematis dan *self-efficacy* siswa, serta untuk mengetahui adanya interaksi antara kemampuan awal matematika dan model pembelajaran terhadap kedua variabel tersebut. Penelitian menggunakan pendekatan kuantitatif dengan metode eksperimen semu dan desain faktorial 2×2 . Populasi penelitian adalah seluruh siswa kelas X di MAN 1 Medan, dengan sampel sebanyak dua kelas (X-15 dan X-16) yang masing-masing terdiri atas 31 siswa. Instrumen yang digunakan berupa tes kemampuan komunikasi matematis dan angket *self-efficacy*. Analisis data dilakukan menggunakan analisis varian (ANOVA) dua jalur. Hasil penelitian menunjukkan bahwa: (1) terdapat pengaruh model pembelajaran terhadap kemampuan komunikasi matematis siswa, di mana model NHT memberikan hasil lebih baik daripada pembelajaran langsung; (2) terdapat pengaruh model pembelajaran terhadap *self-efficacy* siswa, dengan hasil lebih tinggi pada kelas NHT; (3) tidak terdapat interaksi antara kemampuan awal matematika dan model pembelajaran terhadap kemampuan komunikasi matematis; dan (4) tidak terdapat interaksi antara kemampuan awal matematika dan model pembelajaran terhadap *self efficacy*. Dengan demikian, model pembelajaran kooperatif tipe NHT dapat menjadi alternatif yang efektif dalam meningkatkan kemampuan komunikasi matematis dan *self efficacy* siswa pada pembelajaran matematika.

Kata kunci: komunikasi matematis, kemampuan awal matematika, NHT, pembelajaran kooperatif, *self-efficacy*.

ABSTRACT

FATHUL JANNAH. The Influence of Early Mathematical Ability and the Cooperative Learning Model Type Numbered Heads Together on Mathematical Communication Skills and Self-Efficacy. Thesis. Medan: Graduate Program, State University of Medan, 2025.

This study is motivated by the low levels of students' mathematical communication skills and self-efficacy, as well as the monotonous and teacher-centered learning process. The purpose of this study is to examine the effect of the Numbered Heads Together (NHT) cooperative learning model compared to direct instruction on students' mathematical communication skills and self-efficacy, and to determine whether there is an interaction between students' early mathematical ability and learning model on those two variables. This research employed a quantitative approach with a quasi-experimental method and a 2×2 factorial design. The population consisted of all tenth-grade students at MAN 1 Medan. The sample included two classes (X-15 and X-16), each comprising 31 students. The instruments used were a mathematical communication skills test and a self-efficacy questionnaire. Data were analyzed using two-way analysis of variance (ANOVA). The results revealed that: (1) there is a significant effect of the learning model on students' mathematical communication skills, with the NHT model showing better results than direct instruction; (2) there is a significant effect of the learning model on students' self-efficacy, with higher scores in the NHT group; (3) there is no significant interaction between early mathematical ability and learning model on mathematical communication skills; and (4) there is no significant interaction between early mathematical ability and learning model on self-efficacy. Therefore, the NHT cooperative learning model can be considered an effective alternative for improving students' mathematical communication skills and self-efficacy in mathematics learning.

Keywords: cooperative learning, early mathematical ability, mathematical communication, NHT, self-efficacy.

